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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,944	07/12/2001	Nicholas J. Frigo	03493.00231	9459
26652	7590	08/10/2005	EXAMINER	
AT&T CORP. P.O. BOX 4110 MIDDLETOWN, NJ 07748			SEDIGHIAN, REZA	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,944

Applicant(s)

FRIGO ET AL.

Examiner

M. R. Sedighian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2 and 7-21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 31 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/31/05.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. This communication is responsive to applicant's 5/31/05 amendments in the application of N. Frigo et al. The amendments have been entered. Claims 1-2 and 7-21 are now pending.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, it is not clear about "...a plurality of user terminals, each user terminal coupled to an end station ...". Fig. 1 show access nodes AN that are connected to end stations ES. Figs. 2b, 3, 4, 5 each show a plurality of user terminals that are connected to access nodes AN.

As to claim 18, it recites the limitation "said fiber optical feeder ring" in line 1. There is insufficient antecedent basis for this limitation in the claim.

As to claim 19, it recites the limitation "said fiber optical feeder ring" in line 1. There is insufficient antecedent basis for this limitation in the claim.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Sasaki et al. (US Patent No: 6,785,473).

Regarding claim 1, Sasaki teaches a method for communicating information over a WDM fiber optical ring network architecture in a metro access area (301, 302, 303, fig. 3) using one or more wavelengths (col. 3, lines 44-53), which can be shared by a plurality of user terminals (321, 322, fig. 3) each user terminal coupled to an end station (311, 316, fig. 3) comprising the steps of: sending at least one downstream data packet (501, fig. 5); sending at least one optical chalkboard packet (col. 4, lines 30-33 and Partial Lightwave Path Supervisory Control Info Region in fig. 5) consisting of a recognizable pattern (col. 4, lines 32-35); and sending a control signal (col. 4, lines 26-30 and Lightwave Path Supervisory Control Info Region in fig. 5).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2, 7-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spiekman et al. (a flexible metro WDM ring using wavelength-independent subscriber equipment to share bandwidth, OFC, paper PD38, March 9, 2000) in view of Majima (US Patent No: 5,801,861), or Sasaki et al. (US patent No: 6,785,473).

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Regarding claim 1, Spiekman teaches a method for communicating information over a WDM fiber optical ring network architecture (page 281, first paragraph and fig. 1) in a metro access area using one or more wavelengths (page 281, second paragraph), which can be shared by a plurality of user terminals (page 281, second paragraph) each user terminal coupled to an end station (ES, fig. 1) comprising the steps of: sending at least one downstream data packet (page 282, first paragraph, lines 3-5); sending at least one optical chalkboard packet consisting of a recognizable pattern (page 282, first paragraph, lines 6-7). Spiekman differs from the claimed invention in that Spiekman does not specifically disclose sending a control signal. However, transmitting packet of data and a control signal is well known. For example, Majima teaches transmission of data packet and a control signal (col. 1, lines 65-67, col. 2, lines 1-9 and Data Length and Wavelength Control Code in fig. 3). Likewise, Sasaki teaches the transmission of data packet and a control signal (col. 4, lines 26-31 and lightwave path supervisory control info region in fig. 5). As it is taught by Majima or Sasaki, it would have been obvious to a person of ordinary skill in the art at the time of invention that a data packet transmission system such as the one of Spiekman can transmit a data packet and a control signal to further control the transmission of data signal.

Regarding claim 2, Spiekman teaches reading by the end station data packets addressed to the end station (page 282, first paragraph, lines 1-2, 5-6), passing packets not addressed to the end station through semiconductor optical amplifiers (page 281, second paragraph and SOA, fig. 1), and writing data onto the optical chalkboards when permitted to do so by the control signals (page 282, first paragraph, lines 6-7).

Regarding claims 7-9, Spiekman teaches tapping a portion of light for a receiver (page 282, second paragraph, lines 7-9), decoding by the receiver the downstream packets, and passing a remaining portion of light to a wavelength-independent and polarization independent modulator (page 281, second paragraph, line 2 and page 282, second paragraph, lines 7-14).

Regarding claim 10, Spiekman teaches determining when the control signals permit the writing, and writing data by modulating the optical chalkboard (page 282, first paragraph, lines 6-7).

Regarding claim 11, Spiekman teaches the steps of exiting of light carrying data packet from an end station (page 282, second paragraph, lines 13-14), re-entering an access node (AN 2 in fig. 1) of light carrying data via a WDM fiber (page 282, second paragraph, lines 13-14), and continuing onto a WDM fiber optic feeder ring to a next node (AN N in fig. 1).

Regarding claim 12, Spiekman teaches the next node is an access node (for example, AN 2 and AN N, fig. 1).

Regarding claim 13, Spiekman teaches the next node is a network node (Network Node, fig. 1).

Regarding claim 15, Spiekman teaches optically amplifying (SOA, fig. 1) downstream data packets and any upstream data created, pre-equalizing any upstream data, and modulating any upstream data (page 282, second paragraph, lines 7-13).

8. Claims 14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spiekman et al. (a flexible metro WDM ring using wavelength-independent subscriber equipment to share bandwidth, OFC, paper PD38, March 9, 2000) in view of Majima (US

Patent No: 5,801,861), or Sasaki et al. (US patent No: 6,785,473) and in further view of Samoylenko (US Patent No: 6,252,881).

Regarding claims 14 and 16-17, Spiekman teaches using FDDI standard protocol (page 282, first paragraph). The modified optical data transmission system of Spiekman and Majima, or Sasaki differs from the claimed invention in that Spiekman and Majima, or Sasaki do not specifically disclose using a Media Access Control (MAC) protocol. Samoylenko teaches a collision-free media access control protocol which has automatic mechanism for dynamic adaptation to variations in network parameters (col. 5, lines 1-10). Therefore, it would have been obvious to an artisan at the time of invention to incorporate a data transmission method based on Media Access Control (MAC) protocol, as it is taught by Samoylenko, for the transmission of data packet protocol of Spiekman to provide a collision-free multiple access network.

Regarding claim 18, Spiekman teaches the optical fiber ring is unidirectional (fig. 1) and further wherein the data packets transmitted through the next node are received by the next node (Access node 1, AN 2, AN N, in fig. 1) and then forwarded when the next node gets a token (page 282, second and third paragraphs), wherein the next node is a network node (Network Node of fig. 1).

9. Claim 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spiekman et al. (a flexible metro WDM ring using wavelength-independent subscriber equipment to share bandwidth, OFC, paper PD38, March 9, 2000) in view of Majima (US Patent No: 5,801,861), or Sasaki et al. (US patent No: 6,785,473) and in view of Samoylenko (US Patent No: 6,252,881) and in further view of Van Deventer (US patent No: 5,886,801).

Regarding claim 19, the modified optical data transmission system of Spiekman and Majima, or Sasaki, and Samoylenko differs from the claimed invention in that Spiekman and Majima, or Sasaki, and Samoylenko do not specifically disclose the optical fiber ring is bi-directional and a source transmits the data packet to a destination on one of a clockwise and counter-clockwise fiber. Van Deventer teaches transmission (CK, fig. 1) of optical data signals (F, B, fig. 1) to a destination (K_i, fig. 1) on one of a clockwise (1.2, fig. 1) and counter-clockwise fiber (1.1, fig. 1). Therefore, it would have been obvious to an artisan at the time of invention to incorporate a method of bi-directional optical data transmission, such as the one of Van Deventer, for the data transmission network of Spiekman modified by Majima, or Sasaki, and Samoylenko in order to continuously transmit data to a destination in a case of fiber failure, fiber cut, or fault.

Regarding claim 20, Spiekman teaches a choice between transmitting on one of the clockwise and counter-clockwise fiber is made such that the data packets reach the destination before reaching the next node, wherein the next node is a network node (note that data packets are transmitted from the Network Node to respective Access Nodes 1, 2, ..., N, and re-enters the Network Node, as it is shown in fig. 1).

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spiekman et al. (a flexible metro WDM ring using wavelength-independent subscriber equipment to share bandwidth, OFC, paper PD38, March 9, 2000) in view of Majima (US Patent No: 5,801,861), or Sasaki et al. (US patent No: 6,785,473) and in view of Samoylenko (US Patent No: 6,252,881) and in further view of Gerszberg et al. (US Patent Application Publication No: 2002/0033416).

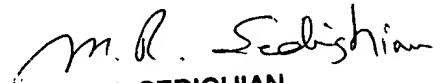
Regarding claim 21, the modified optical data transmission system of Spiekman and Majima, or Sasaki, and Samoylenko differs from the claimed invention in that Spiekman and Majima, or Sasaki, and Samoylenko do not specifically disclose access nodes request bandwidth from the network node through a dedicated channel, and wherein the network node grants bandwidth to access nodes according to a specified scheduling algorithm. However, it is well known to incorporate bandwidth allocation algorithms in a central node, or network node, of a data communication ring network to manage data flow traffic. Gerszberg teaches a communication network architecture employing a hybrid fiber twisted pair local loop architecture (page 2, paragraph 0035 and 42, fig. 1A), wherein bandwidth can be provided between various devices based on an intelligent bandwidth allocation algorithm (page 10, paragraph 0085). As it taught by Gerszberg, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a bandwidth allocation algorithm for the network node of Spiekman in order to manage data flow traffic of the ring network.

11. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


M. R. SEDIGHIAN
PRIMARY EXAMINER